The Hebrew University of Jerusalem

Syllabus

Foundations of Programming For Games - 68202

Last update 15-10-2021

HU Credits: 3

Degree/Cycle: 1st degree (Bachelor)

Responsible Department: Minor in Design and Development of Computers Games

Academic year: 0

Semester: 1st Semester

Teaching Languages: Hebrew

Campus: E. Safra

Course/Module Coordinator: Mr. Nir Lahad

Coordinator Email: nir.lahad@mail.huji.ac.il

Coordinator Office Hours:

Teaching Staff:

Mr. Nir Lahad,
Ms. Daniel Elias

Course/Module description:

Practical foundations and familiarity with the methods, tools, patterns, and principles of game development. During the course, students will use the C# programming language and Unity game engine (one of the leading game development platforms in the industry), develop a series of games of increasing complexity, leading to a complete and comprehensive game. Students will get an initial acquaintance with the world of digital gaming, game design, genres, and the history of digital games.

Course/Module aims:

Learning outcomes - On successful completion of this module, students should be able to:

Use tools, patterns, and principles to develop digital games.
Develop digital games in the Unity game engine.
Apply a game development plan focused on user experience and game design.
Classify digital games into genres.
Acknowledge the history of digital gaming.

Attendance requirements(%):

Up to 3 missed meetings allowed.

Teaching arrangement and method of instruction: Combination of frontal lectures, workshops, assignments and self-learning.
Assignments advance from week to week and are also evaluated by peer feedback and playtests.

Course/Module Content:

Unity game engine: 2D, 3D, physics simulation, animation, user interface, scripting.
C# game programming, game development patterns, and working habits with a multidisciplinary team-oriented development.
Overview of genres, history, art, and animation of digital games.
Working with Git version and collaboration management system.

Required Reading:
 C# Docs (https://docs.microsoft.com/en-us/dotnet/csharp)

 Additional Reading Material:
  Unity User Manual (https://docs.unity3d.com/Manual/index.html)
Unity Scripting API (https://docs.unity3d.com/ScriptReference/index.html)

Game Programming Patterns / Robert Nystrom
Indie Game: The Movie (2012)
Level Up! The guide to great video game design / Scott Rogers
A Theory of Fun for Game Design / Raph Koster

 Course/Module evaluation:
 End of year written/oral examination 0 %
 Presentation 0 %
 Participation in Tutorials 10 %
 Project work 0 %
 Assignments 90 %
 Reports 0 %
 Research project 0 %
 Quizzes 0 %
 Other 0 %

Additional information:
  The course takes place at the Bezalel Academy campus.